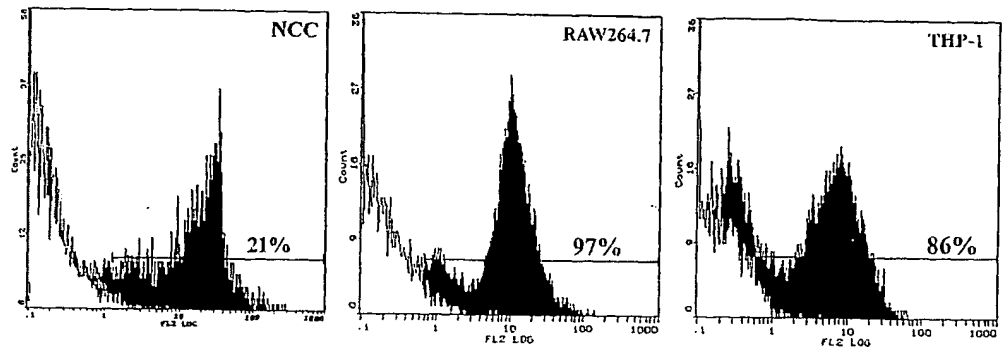
Figures 1A - 1B

A



B

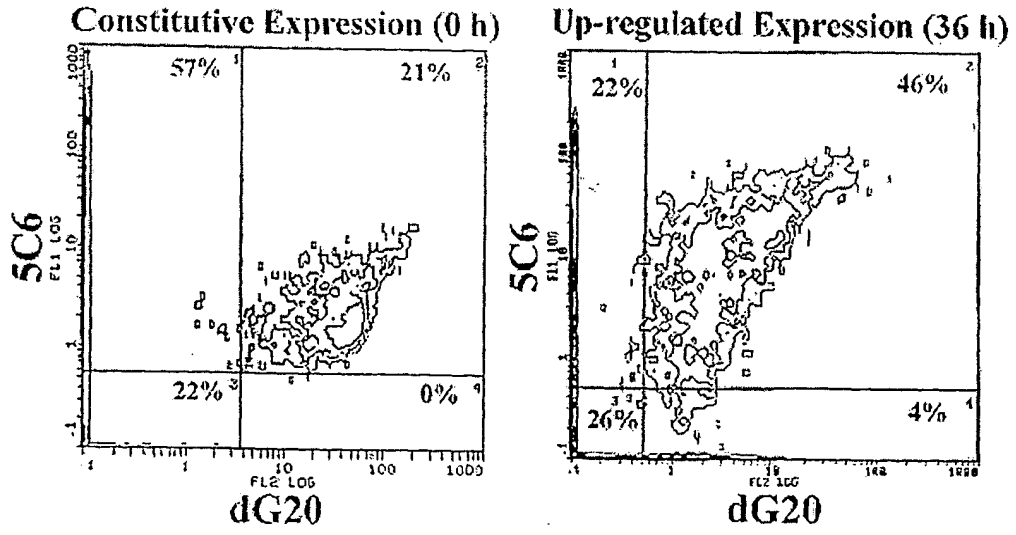


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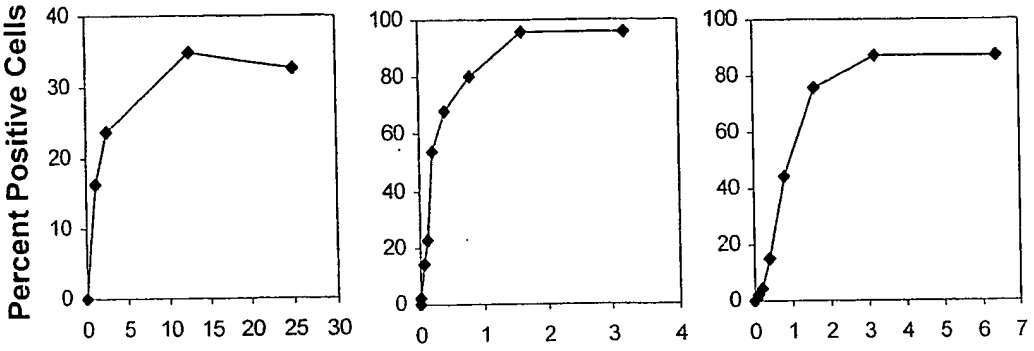
Figure 2



dG20-Biotin (µg/ml)

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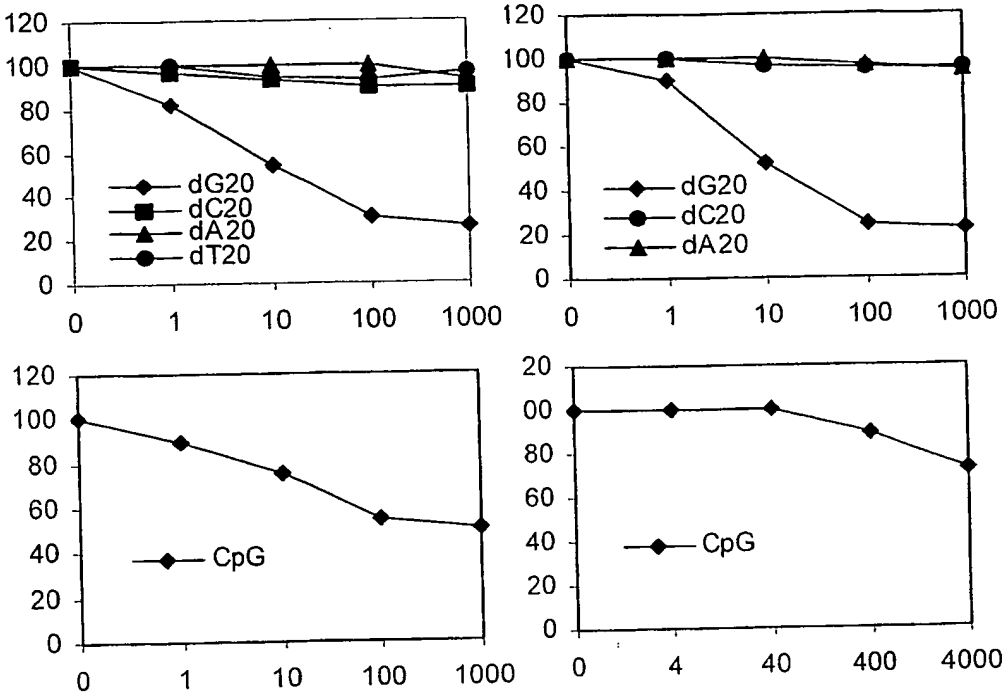
Figures 3A - 3D



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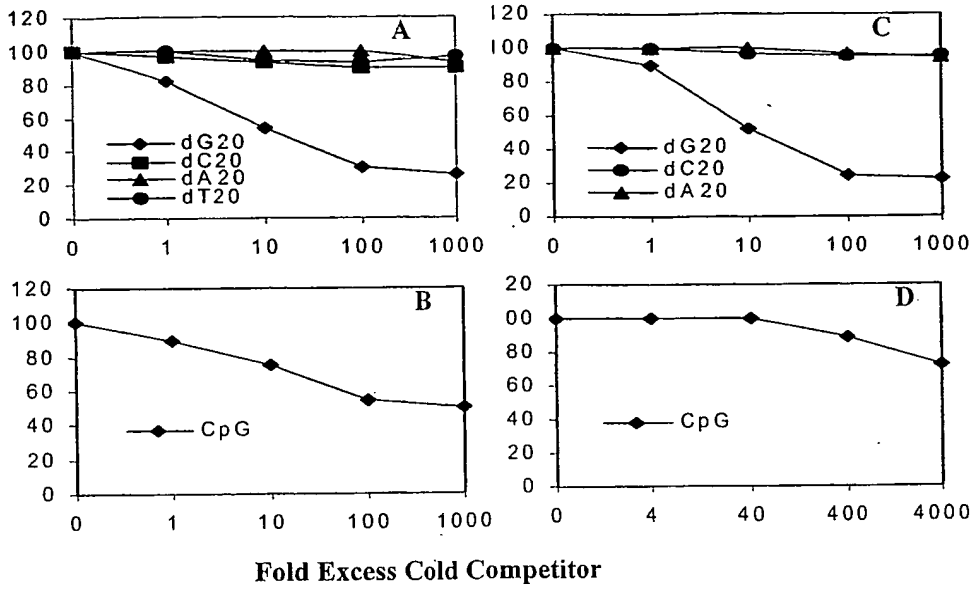
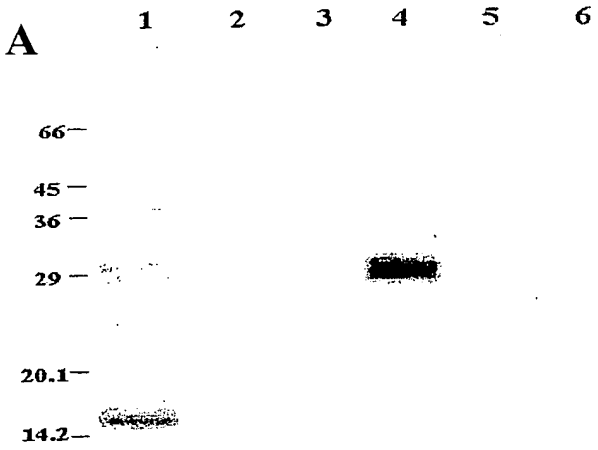
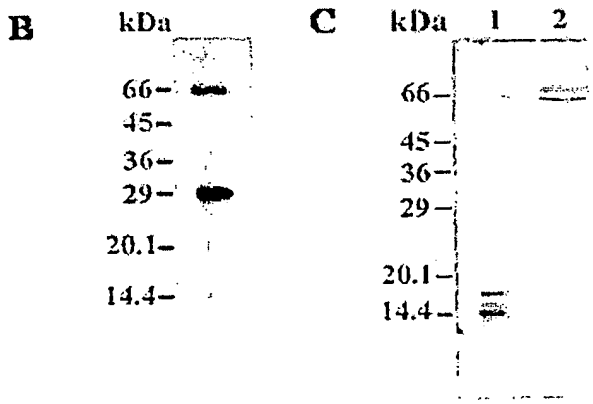
Figures 4A - 4C







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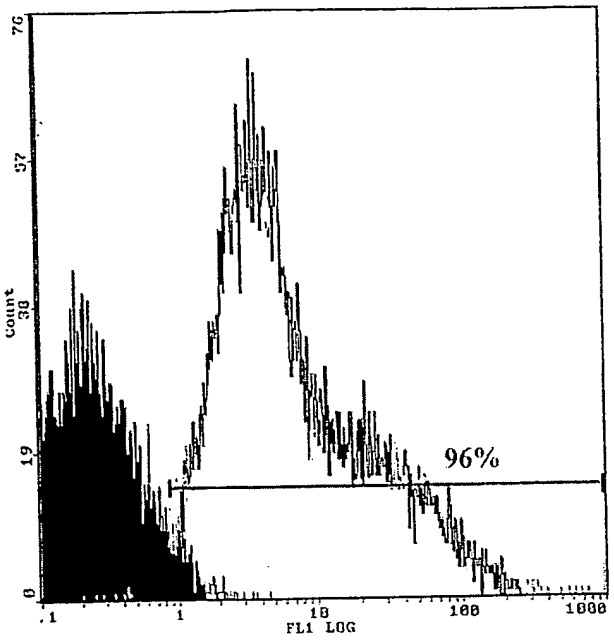
Figures 5A - 5B

A



B

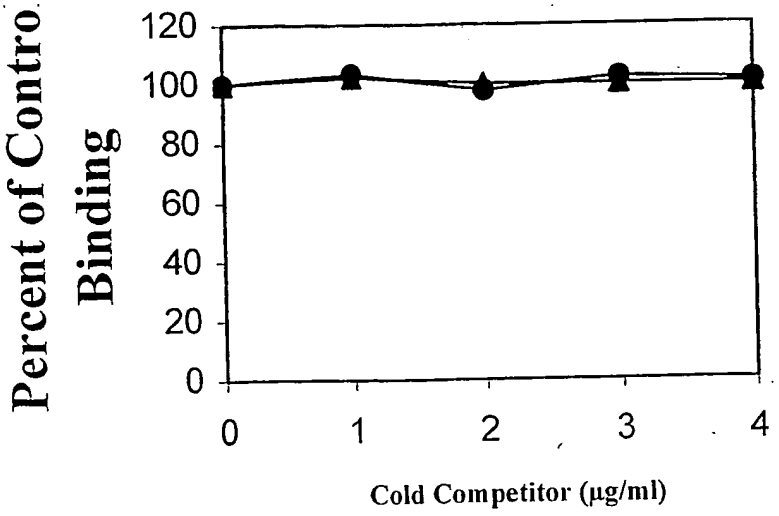


Figure 6

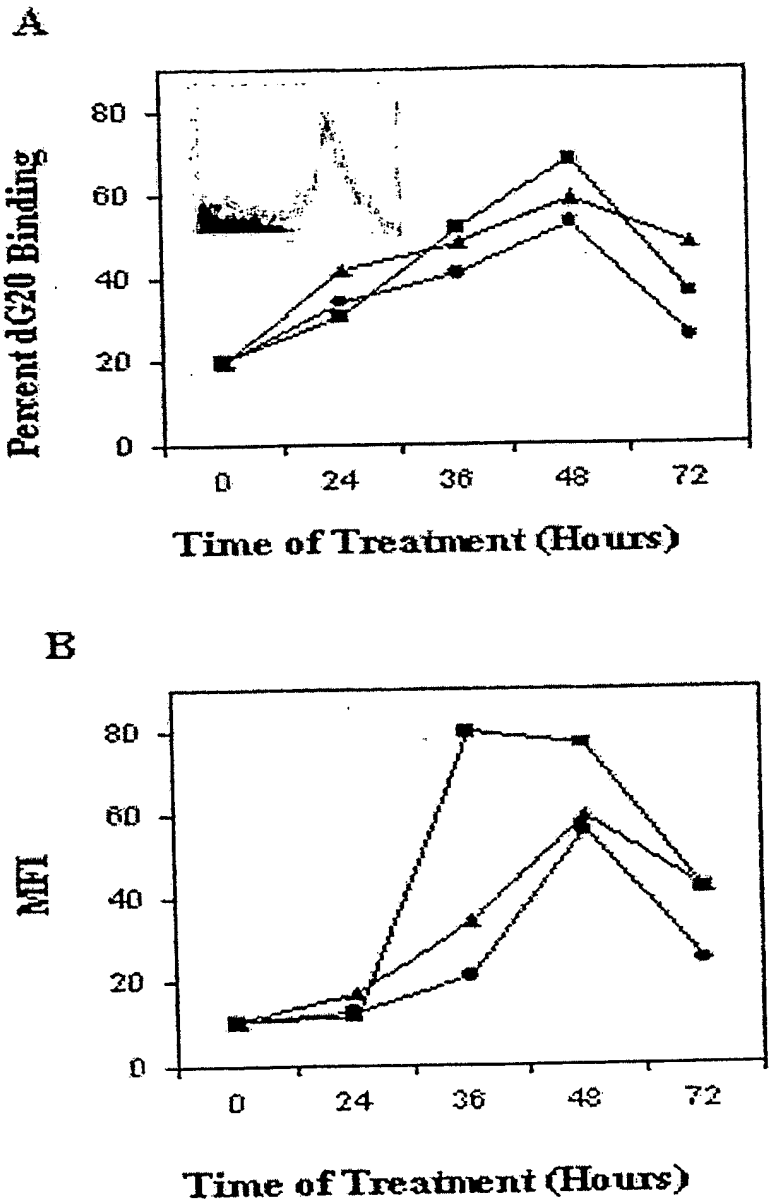

A
Percent dG20 Binding
80
60
40
20
0
0
24
36
48
72
Time of Treatment (Hours)
B
MFI
80
60
40
20
0
0
24
36
48
72
Time of Treatment (Hours)

Figure 7

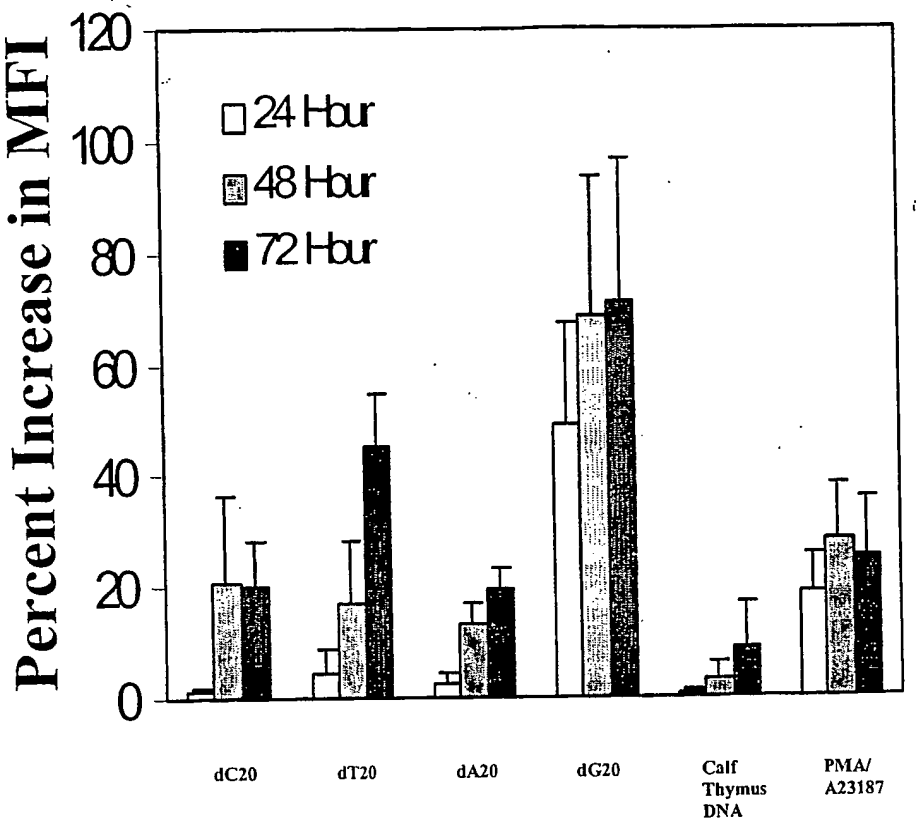

Percent Increase in MFI
120
100
80
60
40
20
0
24 Hour
48 Hour
72 Hour
dC20
dT20
dA20
dG20
Calf Thymus DNA
PMA/ A23187

Figure 8

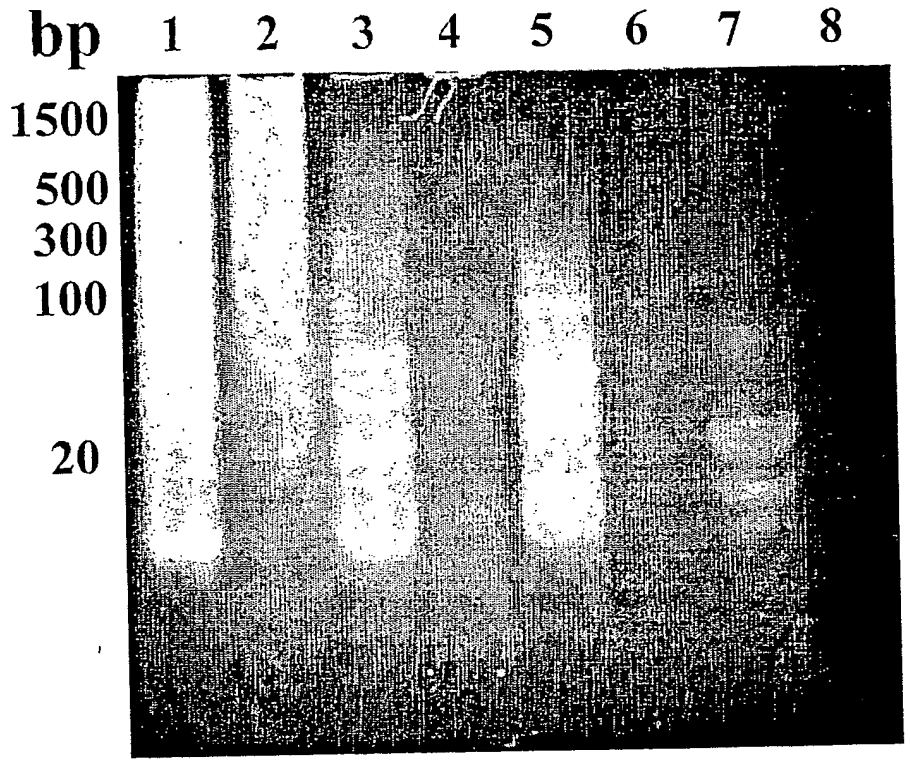


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Figure 9

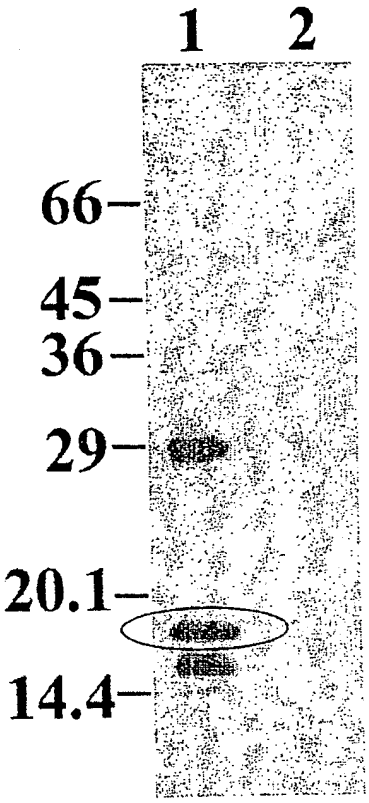

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Figure 10

```
1    CGGCACGAGGGTTCAATAGCATCTCAAGGCGCTTCAGAACTTAAAGTTGA
        M  S  A  Q  A  E  E  T  A  P  E  A  A  A  P  V   16
51   ACCATGTCTGCTCAGGCTGAGGAAACTGCACCAGAAGCAGCAGCACCAGT
       Q  P  S  Q  P  A  A  K  K  K  G  P  A  S  K  A    32
101  ACAACCATCACAACCAGCGGCCAAAAAGAAGGGACCCGCCAGTAAAGCAA
     K  P  A  S  A  E  K  K  N  K  K  K  K  G  K  G  P   49
151  AGCCTGCCTCTGCAGAAAAAAAGAACAAAAAGAAGAAAGGGAAAGGGCCC
      G  K  Y  S  Q  L  V  I  N  A  I  Q  T  L  G  E  R  66
201  GGAAAGTACAGCCAGCTGGTGATCAATGCTATCCAAACGCTGGGAGAGAG
        N  G  S  S  L  F  K  I  Y  N  E  A  K  K  V  N   82
251  AAACGGCTCGTCTCTTTTTAAGATCTACAACGAGGCGAAGAAAGTGAACT
     W  F  D  Q  Q  H  G  R  V  Y  L  R  Y  S  I  R  A   99
301  GGTTTGACCAGCAGCACGGGCGCGTGTACCTCCGCTACTCCATCCGCGCG
      L  L  Q  N  D  T  L  V  Q  V  K  G  L  G  A  N  G  116
351  CTGCTGCAGAACGACACGCTCGTGCAGGTGAAGGGTCTGGGCGCCAACGG
        S  F  K  L  N  K  K  K  F  I  P  R  T  K  K  S   132
401  CTCCTTCAAGCTCAACAAAAAGAAGTTCATCCCCAGAACCAAGAAGAGCT
     S  V  K  P  R  K  T  A  K  P  T  K  K  P  A  K  K   149
451  CTGTAAAGCCGAGAAAGACTGCGAAACCGACCAAAAAGCCAGCCAAAAAA
      A  A  K  K  K  K  R  V  S  G  V  K  K  A  T  P  P  166
501  GCAGCGAAGAAGAAGAAAAGGGTCAGCGGCGTGAAGAAGGCGACTCCCCC
        P  E  K  T  S  K  P  K  K  A  D  K  S  P  A  V   182
551  CCCAGAGAAAACCTCCAAACCCAAGAAAGCGGATAAAAGTCCAGCCGTCT
     S  A  K  K  A  S  K  P  K  K  A  K  Q  T  K  K  T   199
601  CTGCCAAGAAGGCGAGCAAGCCCAAGAAAGCTAAACAGACAAAAAAGACT
      A  K  K  T  *                                      203
651  GCTAAGAAGACTTAAAACGTTTATATTCTGCATGCTTTGTGCATTAAGCA
701  TTGCACTGCGGGTAAACTGCACGCTTTCTGATCGCAGTTCATTAAGTAGG
751  ATATGCACAGTGTTTAACCAAGTGTGCAAGTCACTCTGGTCTCAATGTTT
801  TACTGATGTAACCACATGTAAATAACTGTACAAAGAAGGAAACAATCACT
851  TTTGTAACGTCTGCTTTGTTATTATTTCTTTTCTACTAGTTAGCTAAAAT
901  AACTGCTTATGGCTTCTTTTAAAATAAAATGATAAAAGAAAAAAAAAAAA
951  AAAAAA
```

Figure 11

```
Catfish NCAMP-1          : MSAQAEETAPAAAPVQPSQP----------AAKKKGPASKKPASAEKKNKKKKGKGEGKYSCKVINAIQTKGERNG  : 68
Danio H1X-like-AAH47192  : -----MPAVVESAPAPAPAP----------AEKKAKPAVAASPAKK----KKKKSKGEGKYSKKVTDAIRTKGEKNG  : 59
Xenopus H1X-AAH41758     : -----MALEDENLHSTEEDEEEEEEGDEMRSRSTRNKGGAASSGNKKKKKK--KKNQPGRYSCKVVDTIRKKGERGG  : 73
Mus H1X XP_144949        : -----MSVELEEALPPTSADG----------TARKTAKAGGSKAPTQPKRRKN-PKKNQPGKYSCKVVETIRKKGERGG  : 63
human H1X-BAA11018       : -----MSVELEEALPVTTAEG----------MAKKVTKAGGSKALSPSKKRKNSKKKNQPGKYSCKVVETIRRKGERNG  : 64

Catfish NCAMP-1          : SSLEKIYNEAKKVNFDQQHGRVYLRYSIRALLQNDTLVQVKGLGANGSFKLNKKKFIPRTKKSSVKPRKTAKPTKKPAK  : 148
Danio H1X-like-AAH47192  : SSLEKIYNEAKKVSFDQKNGRMYLRASIRALVLNDTLVQVKGFGANGSFKLNKKKLEKKPKK-AASKKATKKTEKPTSK  : 138
Xenopus H1X-AAH41758     : SSLAKLYSEAKKVSFDQQNGRTYLKYSIKALVQNDTLLQVKGVGANGSFRLNKKKLEGLPYDKKPPPAKPSSSSSSNKK  : 153
Mus H1X XP_144949        : SSLARIYAEARKVAFDQQNGRTYLKYSIRALVQNDTLLQVKGTGANGSFKLNRKKLEGGGAERR-GASAASSPAPKAR--  : 140
human H1X-BAA11018       : SSLARIYTEAKKVEFDQQNGRTYLKYSIRALVQNDTLLQVKGTGANGSFKLNRKKLEGGGERRGAPAAAATAPAPTAHKA  : 144

Catfish NCAMP-1          : KAAK-----KKKRVSGVKKATPPPEKTSKPK----------KADKSPAVSAKKASKPKKAKQTKKTAKKTT-  : 203
Danio H1X-like-AAH47192  : KAVT-----KKVSAKKSAKKSPVKKRTPKKT----------SVKKATAKPKKTASKKPKAAAKKKTKSK--  : 192
Xenopus H1X-AAH41758     : QQQ-----GPSSSPSKSHKKAKPKAKAEEKPKTSSAKAKSPKKSAAKG-KKMKKGAKPSVRKAPKSKKA  : 217
Mus H1X XP_144949        : ---------TAAADRTPAARPQ-PERRAHKS----------KKAAAAASAAKKVKKAAAKPSVPKVPKGRK-  : 188
human H1X-BAA11018       : KKAAPGAAGSRRADKKPARGQKPEQESHKKGAGAKKDKGGKAKKTAAAGGKKVKKAAAKPSVPKVPKGRK-  : 213
```

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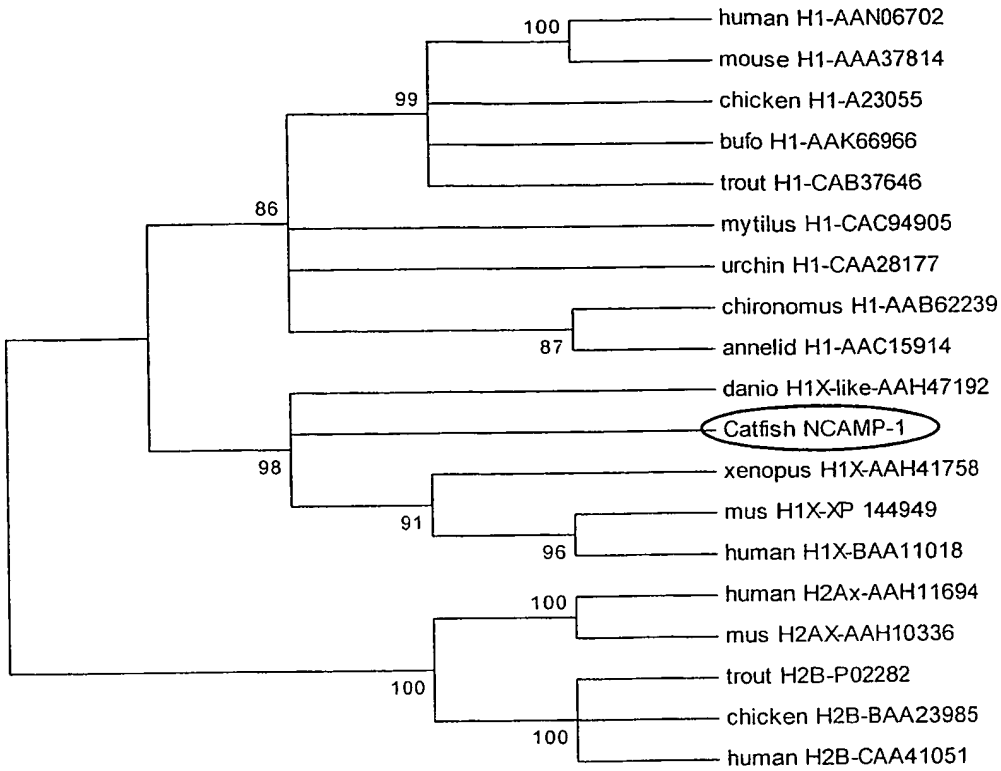
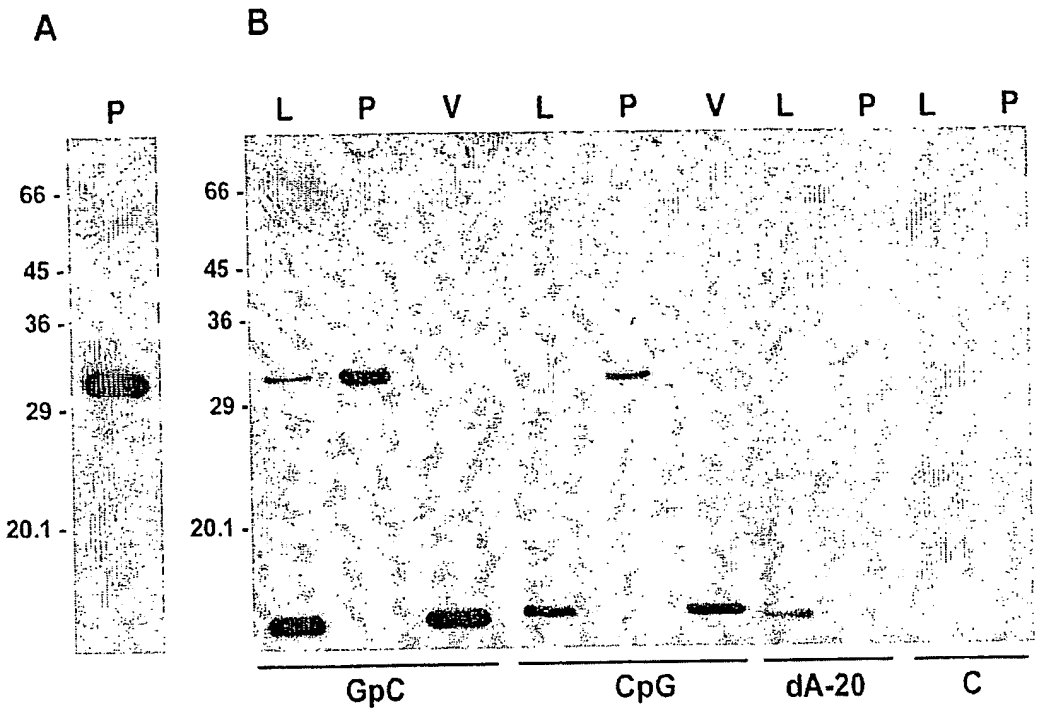
Figure 12


100
human H1-AAN06702
mouse H1-AAA37814
99
chicken H1-A23055
bufo H1-AAK66966
trout H1-CAB37646
86
mytilus H1-CAC94905
urchin H1-CAA28177
chironomus H1-AAB62239
87
annelid H1-AAC15914
danio H1X-like-AAH47192
Catfish NCAMP-1
98
xenopus H1X-AAH41758
91
mus H1X-XP 144949
96
human H1X-BAA11018
100
human H2Ax-AAH11694
mus H2AX-AAH10336
100
trout H2B-P02282
chicken H2B-BAA23985
100
human H2B-CAA41051

Figures 13A - 13B



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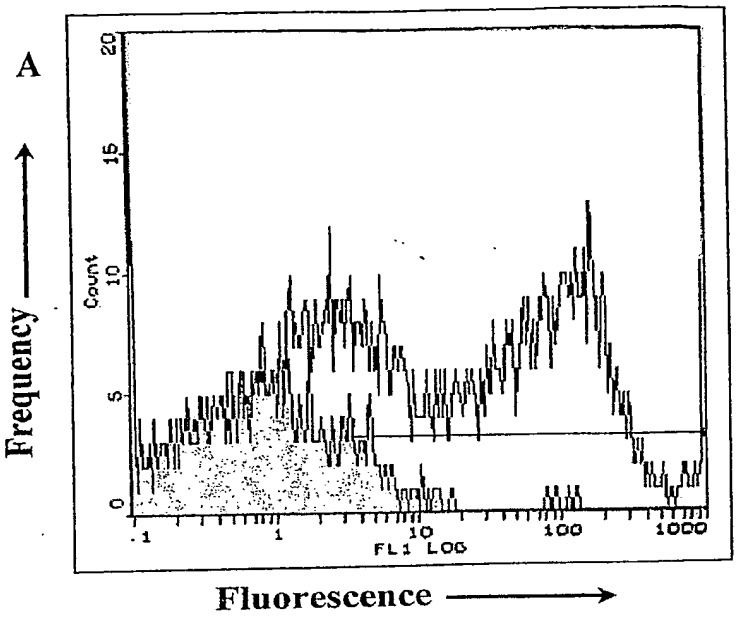
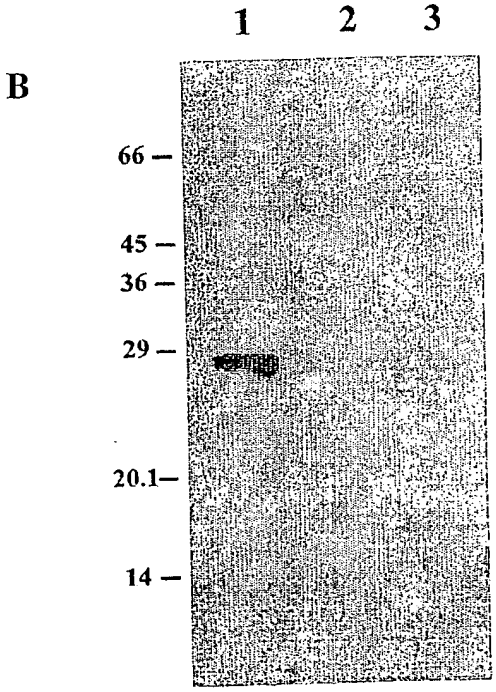
Figures 14A - 14B





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Figures 15A - 15B

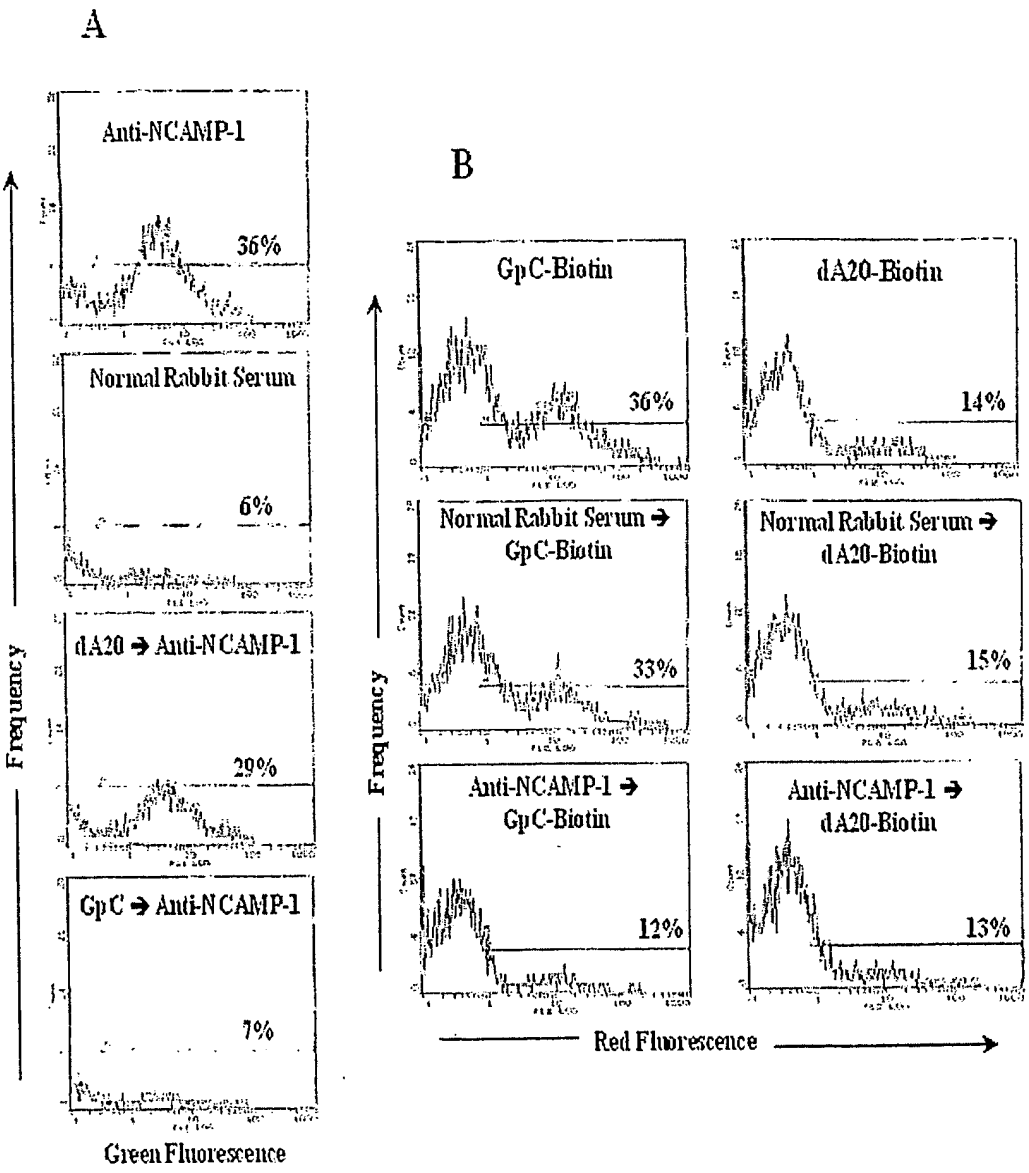

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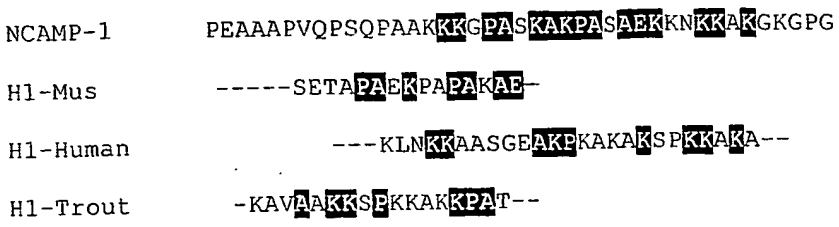
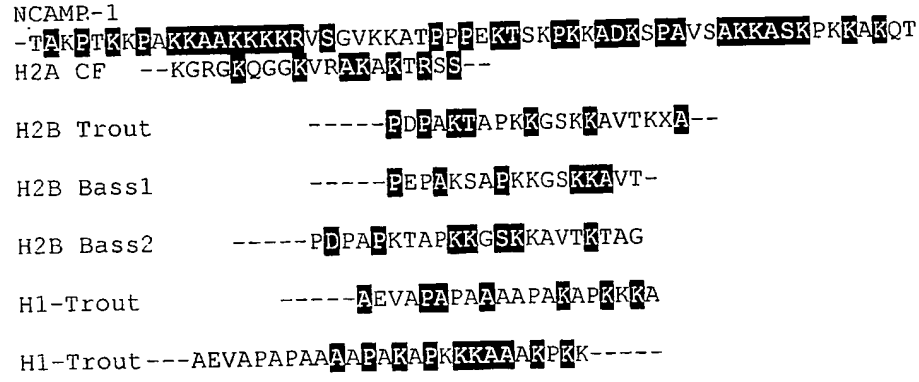
FIGURE 16



C-Terminal residues :



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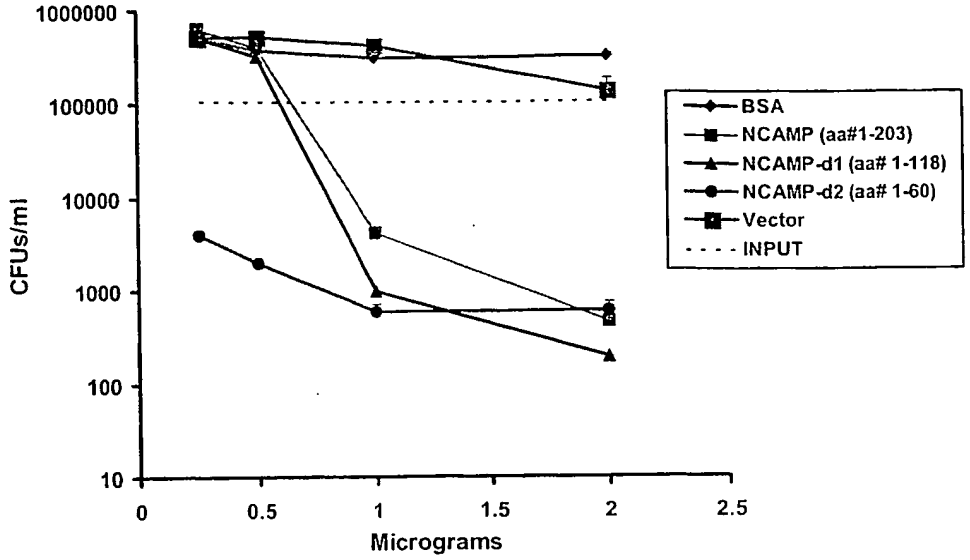
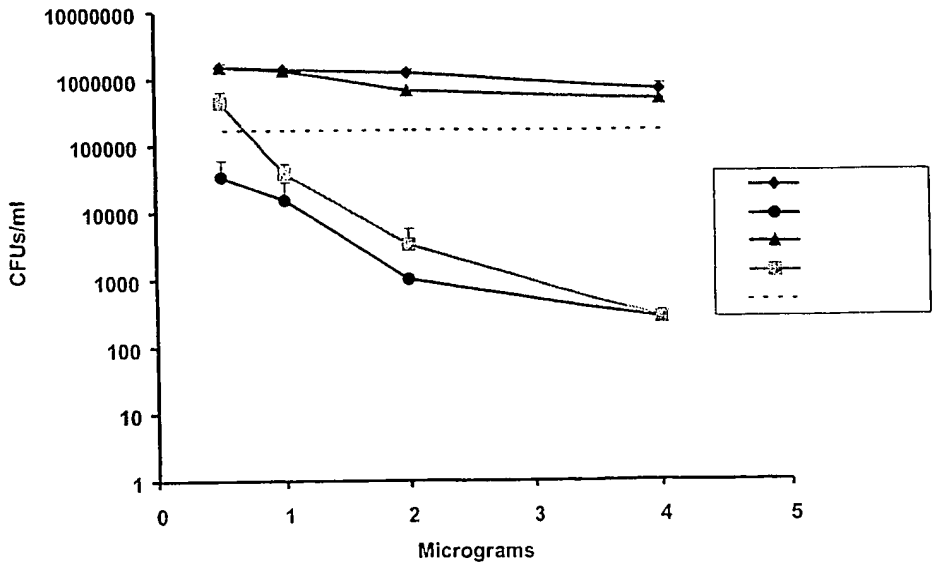
Figures 17A - 17B

A



B



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